

SEVENTH APPROXIMATION
DATA FORM FOR CONVENTIONAL ASSESSMENT UNITS (Version 6, 9 April 2003)

IDENTIFICATION INFORMATION

Assessment Geologist:	D.L. Gautier	Date:	11/18/2003
Region:	North America	Number:	5
Province:	San Joaquin Basin	Number:	5010
Total Petroleum System:	Miocene	Number:	501004
Assessment Unit:	Southeast Stable Shelf	Number:	50100401
Based on Data as of:	IHS 2003; NRG 2002 (data current through 2000)		
Notes from Assessor:	Replaces 1995 Southeast Stable Shelf Play 1002 NRG reservoir growth function		

CHARACTERISTICS OF ASSESSMENT UNIT

Oil (<20,000 cfg/bo overall) or Gas (≥20,000 cfg/bo overall): Oil

What is the minimum accumulation size? 0.5 mmboe grown
(the smallest accumulation that has potential to be added to reserves)

No. of discovered accumulations exceeding minimum size: Oil: 17 Gas: 0
Established (>13 accums.) X Frontier (1-13 accums.) Hypothetical (no accums.)

Median size (grown) of discovered oil accumulations (mmbo):
1st 3rd 199.8 2nd 3rd 11.7 3rd 3rd 10.2
Median size (grown) of discovered gas accumulations (bcfg):
1st 3rd 2nd 3rd 3rd 3rd

Assessment-Unit Probabilities:

<u>Attribute</u>	<u>Probability of occurrence (0-1.0)</u>
1. CHARGE: Adequate petroleum charge for an undiscovered accum. ≥ minimum size:	<u>1.0</u>
2. ROCKS: Adequate reservoirs, traps, and seals for an undiscovered accum. ≥ minimum size:	<u>1.0</u>
3. TIMING OF GEOLOGIC EVENTS: Favorable timing for an undiscovered accum. ≥ minimum size:	<u>1.0</u>

Assessment-Unit GEOLOGIC Probability (Product of 1, 2, and 3): 1.0

UNDISCOVERED ACCUMULATIONS

No. of Undiscovered Accumulations: How many undiscovered accums. exist that are ≥ min. size?:
(uncertainty of fixed but unknown values)

Oil Accumulations:	minimum (>0) <u>1</u>	mode <u>7</u>	maximum <u>40</u>
Gas Accumulations:	minimum (>0) <u>0</u>	mode <u>0</u>	maximum <u>0</u>

Sizes of Undiscovered Accumulations: What are the sizes (**grown**) of the above accums?:
(variations in the sizes of undiscovered accumulations)

Oil in Oil Accumulations (mmbo):	minimum <u>0.5</u>	median <u>1</u>	maximum <u>20</u>
Gas in Gas Accumulations (bcfg):	minimum <u> </u>	median <u> </u>	maximum <u> </u>

AVERAGE RATIOS FOR UNDISCOVERED ACCUMS., TO ASSESS COPRODUCTS

(uncertainty of fixed but unknown values)

<u>Oil Accumulations:</u>	minimum	mode	maximum
Gas/oil ratio (cfg/bo)	<u>200</u>	<u>400</u>	<u>1000</u>
NGL/gas ratio (bngl/mmcf)	<u>20</u>	<u>40</u>	<u>60</u>
<u>Gas Accumulations:</u>	minimum	mode	maximum
Liquids/gas ratio (bliq/mmcf)	<u> </u>	<u> </u>	<u> </u>
Oil/gas ratio (bo/mmcf)	<u> </u>	<u> </u>	<u> </u>

SELECTED ANCILLARY DATA FOR UNDISCOVERED ACCUMULATIONS

(variations in the properties of undiscovered accumulations)

<u>Oil Accumulations:</u>	minimum	mode	maximum
API gravity (degrees)	<u>12</u>	<u>35</u>	<u>42</u>
Sulfur content of oil (%)	<u>0.1</u>	<u>0.7</u>	<u>2.7</u>
Depth (m) of water (if applicable)	<u> </u>	<u> </u>	<u> </u>
Drilling Depth (m)	minimum <u>500</u>	F75 <u>1600</u>	F25 <u>3050</u>

<u>Gas Accumulations:</u>	minimum	mode	maximum
Inert gas content (%)	<u> </u>	<u> </u>	<u> </u>
CO ₂ content (%)	<u> </u>	<u> </u>	<u> </u>
Hydrogen-sulfide content (%)	<u> </u>	<u> </u>	<u> </u>
Depth (m) of water (if applicable)	<u> </u>	<u> </u>	<u> </u>
Drilling Depth (m)	minimum <u> </u>	F75 <u> </u>	F25 <u> </u>

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO STATES

Surface Allocations (uncertainty of a fixed value)

1. California represents 100 area % of the AU

<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	100	_____

Gas in Gas Accumulations:

Volume % in entity				
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2. _____ represents _____ area % of the AU

<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity			

Gas in Gas Accumulations:
Volume % in entity

3. represents area % of the AU

<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity			

Gas in Gas Accumulations:
Volume % in entity

4. _____ represents _____ area % of the AU

<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity			

Gas in Gas Accumulations:
Volume % in entity

5. _____ represents _____ area % of the AU

<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity			

Gas in Gas Accumulations:
Volume % in entity

6. _____ represents _____ area % of the AU

<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity			

Gas in Gas Accumulations:
Volume % in entity

7.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
8.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
9.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
10.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
11.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
12.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES
Surface Allocations (uncertainty of a fixed value)

1.	Federal Lands	represents	0.55	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity		0.5	
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity			
2.	Private Lands	represents	99.28	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity		99.4	
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity			
3.	Tribal Lands	represents		area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity			
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity			
4.	Other Lands	represents		area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity			
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity			
5.	CA State Lands	represents	0.16	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity		0.1	
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity			
6.		represents		area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity			
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity			

7.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
8.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
9.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
10.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
11.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
12.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO FEDERAL LAND SUBDIVISIONS

Surface Allocations (uncertainty of a fixed value)

1. <u>Bureau of Land Management (BLM)</u>	represents	<u>0.55</u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u> </u>	<u>0.5</u>	<u> </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u> </u>	<u> </u>	<u> </u>
2. <u>BLM Wilderness Areas (BLMW)</u>	represents	<u> </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u> </u>	<u> </u>	<u> </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u> </u>	<u> </u>	<u> </u>
3. <u>BLM Roadless Areas (BLMR)</u>	represents	<u> </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u> </u>	<u> </u>	<u> </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u> </u>	<u> </u>	<u> </u>
4. <u>National Park Service (NPS)</u>	represents	<u> </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u> </u>	<u> </u>	<u> </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u> </u>	<u> </u>	<u> </u>
5. <u>NPS Wilderness Areas (NPSW)</u>	represents	<u> </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u> </u>	<u> </u>	<u> </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u> </u>	<u> </u>	<u> </u>
6. <u>NPS Protected Withdrawals (NPSP)</u>	represents	<u> </u>	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	<u> </u>	<u> </u>	<u> </u>
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	<u> </u>	<u> </u>	<u> </u>

7. <u>US Forest Service (FS)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
8. <u>USFS Wilderness Areas (FSW)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
9. <u>USFS Roadless Areas (FSR)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
10. <u>USFS Protected Withdrawals (FSP)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
11. <u>US Fish and Wildlife Service (FWS)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
12. <u>USFWS Wilderness Areas (FWSW)</u>	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____

13. <u>USFWS Protected Withdrawals (FWSP)</u>	represents		area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
14. <u>Wilderness Study Areas (WS)</u>	represents		area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
15. <u>Department of Energy (DOE)</u>	represents		area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
16. <u>Department of Defense (DOD)</u>	represents		area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
17. <u>Bureau of Reclamation (BOR)</u>	represents		area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____
18. <u>Tennessee Valley Authority (TVA)</u>	represents		area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity	_____	_____	_____
<u>Gas in Gas Accumulations:</u>			
Volume % in entity	_____	_____	_____

19. Other Federal represents area % of the AU

<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity			

Gas in Gas Accumulations:

Volume % in entity			
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20. _____ represents _____ area % of the AU

<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
Volume % in entity			

Gas in Gas Accumulations:
Volume % in entity

ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO ECOSYSTEMS

1.	<u>Great Valley (GRVA)</u>	represents	<u>90</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u> </u>	<u>99</u>	<u> </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u> </u>	<u> </u>	<u> </u>
2.	<u>Sierra Nevada Foothills (SNFH)</u>	represents	<u>10</u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u> </u>	<u>1</u>	<u> </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u> </u>	<u> </u>	<u> </u>
3.	<u> </u>	represents	<u> </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u> </u>	<u> </u>	<u> </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u> </u>	<u> </u>	<u> </u>
4.	<u> </u>	represents	<u> </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u> </u>	<u> </u>	<u> </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u> </u>	<u> </u>	<u> </u>
5.	<u> </u>	represents	<u> </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u> </u>	<u> </u>	<u> </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u> </u>	<u> </u>	<u> </u>
6.	<u> </u>	represents	<u> </u>	area % of the AU
	<u>Oil in Oil Accumulations:</u>	minimum	mode	maximum
	Volume % in entity	<u> </u>	<u> </u>	<u> </u>
	<u>Gas in Gas Accumulations:</u>			
	Volume % in entity	<u> </u>	<u> </u>	<u> </u>

7.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
8.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
9.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
10.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
11.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____
12.	_____	represents	_____	area % of the AU
<u>Oil in Oil Accumulations:</u>	minimum		mode	maximum
Volume % in entity	_____		_____	_____
<u>Gas in Gas Accumulations:</u>				
Volume % in entity	_____		_____	_____